UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,600	02/02/2000	Hang Zhang	50325-109	6479

29989 7590 11/20/2009

HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER	
BOUTAH, ALINA A	

ART UNIT	PAPER NUMBER
2443	

MAIL DATE	DELIVERY MODE
11/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HANG ZHANG, KSAI LIANG, and DAHAI LI

Appeal 2008-006133
Application 09/496,600[1]
Technology Center 2400

Decided: November 20, 2009

Before LEE E. BARRETT, LANCE LEONARD BARRY, and HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-44. We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We affirm and also enter a new ground of rejection.

---

[1] Filed February 2, 2000, titled "Method and Apparatus for Browsing a Management Information Base." The real party in interest is Cisco Technology, Inc.

STATEMENT OF THE CASE

The invention

The invention is described in the Abstract as follows:

> A method and apparatus are disclosed for browsing one or more Management Information Base (MIB) objects that are stored in a network device, such as a router or switch. In one embodiment, the network device receives a connection of a Web browser at an HTTP daemon and further receives a request from the Web browser to obtain the current value of the MIB variable. The request may be sent in a Hypertext Transfer Protocol (HTTP). The HTTP daemon passes the request to an HTTP-SNMP interface. The HTTP-SNMP interface creates an SNMP query for the current value of the MIB variable and sends the query to an SNMP daemon of the network device. The SNMP daemon obtains the current value of the variable from a MIB of the network device. The network device then returns the current value of the MIB variable to the Web browser which can display it.

Illustrative claim

Claim 1 is reproduced below for illustration:

> 1. A method for obtaining a current value of a Management Information base (MIB) variable stored in a in a network packet router, the method comprising the steps of:
>
> receiving a connection of a Web browser to a network packet router;
>
> receiving at the network packet router an HTTP request message from the browser to obtain the current value of the MIB variable from the network packet router to which the MIB variable value pertains;

receiving the current value of the MIB variable from the MIB of the network packet router to which the MIB variable value pertains; and

communicating the current value of the MIB variable from the network packet router to which the MIB variable value pertains to the browser using an HTTP reply message.

The references

Spofford	5,913,037	June 15, 1999
Krishnamurthy	6,389,464 B1	May 14, 2002 (filed June 27, 1997)
Moeller	6,662,208 B1	Dec. 9, 2003 (filed Oct. 5, 1999)

The rejection

Claims 1-44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Krishnamurthy, Spofford, and Moeller.

PRINCIPLES OF LAW

"[T]he test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted). A rejection under 35 U.S.C. § 103(a) is based on the following factual determinations: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) any objective indicia of non-obviousness. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006) (citing *Graham v. John Deere Co.*, 383 U.S. 1,

17 (1966)). "[H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

"A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

FINDINGS OF FACT

Scope and contents of the references

There is no dispute that the references are within the scope of the relevant prior art.

Krishnamurthy

Krishnamurthy describes that some prior art network management systems (NMSs) require agents in the devices themselves which communicate with a manager using a protocol that the manager understands. Col. 1, ll. 40-47. One limitation is that a number of device management systems are vendor-specific non-standard systems that are capable of managing only one type of device. Col. 1, ll. 48-50. A need exists for a standards-based management system which enables any device to be directly element-managed from any manager. Col. 2, ll. 7-9.

Simple Network Management Protocol (SNMP) is used for managing devices from a management console. SNMP is a known method for relaying network management information from devices on a network to management consoles designed to provide a comprehensive view of the network. SNMP comprises the protocol itself and the Management Information Base (MIB). Col. 2, ll. 24-29.

Krishnamurthy describes a universal device management system for managing multi-vendor devices using a single-standard manager. Col. 1, ll. 11-14. Krishnamurthy also relates to a site server which is configurable using Worldwide Web browser technology to translate native protocols and formats of multiple devices into a single, standards-based management protocol. Col. 1, ll. 14-18.

Krishnamurthy describes, with respect to Figure 2, a system comprising a site server 12 (e.g., 12a, 12b, 12c), to which various kinds of devices 14 can be connected. Col. 5, ll. 48-50. The servers are connected to a network management center (NMC) 16 including a Web manager 18 and an SNMP manager via a corporate intranet 22, a public switched telephone network (PSTN) 36, or the Internet 40. Col. 5, l. 50 to col. 6, l. 20. A user can use a computer 58 and Web browser to configure a site server 12 to manage devices remotely with respect to the NMC 16. Col. 6, ll. 22-26.

The site server 12, as shown in Figure 3, includes a relational database 80 for storing configuration data which, when used in connection with MIB files, allows native interfaces of devices to be interpreted as

SNMP operations, thereby allowing for management of different types of devices 14 connected to the site server 12. Col. 6, ll. 58-65.

A Web server 64 of site server 12 allows communication between a remote computer 58 and the site server 12 using HyperText Transfer Protocol (HTTP) and HyperText Markup Language (HTML). Col. 7, l. 54 to col. 8, l. 12. One option at the user's browser is to "Browse SNMP Management Information Base." Fig. 4.

The devices monitored by the site server 12 may include routers. Col. 4, l. 22; col. 13, l. 56; col. 18, l. 31.

Spofford

Spofford describes an SNMP agent in a network device as follows:

> In general, some sort of network or resource manager, such as a software agent, implements an MIB. For example, a software agent operating on a network switch or repeater maintains an MIB for managing that network device. A management console operating on a computer system in the network may monitor and manage a network device by sending SNMP requests to a software agent running on the device, where the agent accesses its local MIB to retrieve or modify MIB objects.

Col. 1, l. 65 to col. 2, l. 6.

Moeller

Moeller describes "a JAVA applet that communicates with an SNMP module on the switch 12 to retrieve the necessary data from the registration database." Col. 6, ll. 23-25.

Differences

The argued difference between Krishnamurthy and the subject matter of claim 1 is that Krishnamurthy describes the functionality of receiving an HTTP request message from a browser to obtain the current value of an MIB variable, receiving the current value of the MIB variable, and communicating the value of the MIB variable back to the browser using an HTTP reply message as contained in the site server 12, which manages various network devices including routers, not in the network packet router itself as claimed. That is, the site server 12 is intermediate between the Web browser and the router.

Level of ordinary skill in the art

The level of ordinary skill in the art is evidenced by the references. *See In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978) ("the PTO usually must evaluate both the scope and content of the prior art and the level of ordinary skill solely on the cold words of the literature"); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (the Board did not err in adopting the approach that the level of skill in the art was best determined by the references of record).

ANALYSIS

Claims 1-4, 7-10, 17-21, 28-40, 41, 43, and 44

The issue with respect to representative claim 1 is whether Appellants have shown that the Examiner erred in determining that it would have been obvious to locate the HTTP and SNMP functionality of the site server in Krishnamurthy directly in a network packet router device.

Krishnamurthy teaches locating the functionality of receiving an HTTP request message from a browser to obtain the current value of an MIB variable, receiving the current value of the MIB variable, and communicating the value of the MIB variable back to the browser using an HTTP reply message in the site server. The site server provides consolidated control of diverse devices, such as hubs, switches, routers and virtually any device (e.g., toaster ovens, col. 6, l. 4) from a single point of management. Col. 18, ll. 28-39. Nevertheless, we agree with the Examiner that it would have been obvious to one of ordinary skill in the art to locate the HTTP functionality of the site server in the device itself if one did not want the advantage of controlling diverse devices from a single device.

First, Krishnamurthy describes that prior art "network management systems (NMSs) typically require agents in the devices themselves which communicate with a manager using a protocol that the manager understands." Col. 1, ll. 41-44. This expressly teaches one skilled in the art that the agent can be located directly in the device, and that the agent should use a protocol that the manager understands. This would have suggested to one of ordinary skill in the art that the SNMP agent and HTTP functionality

from the site server in Krishnamurthy could be located in the controlled device, which may be a router, if the consolidated control of a site server was not required. Although Krishnamurthy describes that this prior art arrangement of agents in devices has limitations and disadvantages, such as the devices being vendor-specific and non-standard, Krishnamurthy does not state that such arrangement will not work. Accordingly, we are not persuaded by Appellants' arguments (Br. 14[2]) that the background of Krishnamurthy "teaches away." *See Gurley*, 27 F.3d at 553.

Second, Spofford describes that a "management console operating on a computer system in the network may monitor and manage a network device by sending SNMP requests to a software agent running on the device, where the agent accesses its local MIB to retrieve or modify MIB objects." Col. 2, ll. 2-6. Thus, Spofford expressly teaches locating the agent for handling SNMP requests on the network device, which is consistent with the background description of prior art in Krishnamurthy. Although the device is described as a "network switch or repeater," Spofford states that the network device may be incorporated into any type of device to be managed, such as a router. Col. 5, ll. 59-66. It is true that Spofford does not describe sending the request from a browser in HTTP, but Krishnamurthy is relied upon for this teaching of an appropriate communications protocol. Accordingly, Spofford is further evidence that it would have been obvious to locate an SNMP agent and MIB directly in a network device.

---

[2] Page numbers refer to pages of the Supplemental Appeal Brief received January 16, 2007.

Obviousness is based on what the combined teachings of the references would have suggested to one of ordinary skill in the art. *Keller*, 642 F.2d at 425. It would have been obvious to locate the HTTP and SNMP functionality of Krishnamurthy directly in a network device in view of Krishnamurthy's description that locating the SNMP agent in a device was known in the prior art and in view of the teachings in Spofford. In addition, one of ordinary skill in the art would have been motivated to add HTTP functionality to Spofford to allow obtaining a current value of a MIB variable from a Web browser in view of the teachings of Krishnamurthy.

Appellants argue that the references do not disclose, suggest, or motivate "hosting and executing code in a router to enable direct querying of a router MIB from a conventional web browser." Br. 8. This argument is not persuasive for the reasons discussed above.

Appellants argues that a "*prima facie* obviousness rejection for Claim 1 requires at least a prior art teaching of particular functionality, within a network packet router, for HTTP message communication purposes" (Br. 9) and "[t]his requirement is not met because *Krishnamurthy* describes the use of the site server as an intermediary component between a browser and a router that is being queried for MIB information" (*id.*). Appellants further argue that "[n]one of the cited references convey or suggest the integration of an HTTP daemon or server into a network packet router, for interfacing with a network browser using HTTP to access MIB information about, and stored within, the router." *Id.* at 10. These arguments are not persuasive because the rejection is based on the

obviousness of locating the HTTP functionality of Krishnamurthy in the router. We conclude that it would have been obvious to directly query an MIB in a network device instead of an intermediate site server which manages several devices in view of the prior art in Krishnamurthy and the teachings in Spofford. Krishnamurthy teaches using HTTP functionality to allow communication from a Web browser to an SNMP agent and is not limited to the location of the SNMP agent in an intermediate device.

Appellants argue that the "references do not teach or suggest incorporating code for handling browser-based HTTP messages into a router." Br. 11. Obviousness does not require an express teaching or suggestion in the references. Krishnamurthy teaches using HTTP functionality to allow communication from a Web browser to an SNMP agent and the description in the background and in Spofford that SNMP agents can be located within a network device would have suggested locating HTTP functionality in the network device itself.

Appellants argue that:

> one skilled in the art at the time of the invention would not be motivated to incorporate code for handling browser-based HTTP messages into a router because that was counter-intuitive at the time of the invention. In contrast, conventional wisdom at the time of the invention was to conserve limited router processing and storage resources and to place HTTP intelligence outside of the router, as described in *Krishnamurthy*.

Br. 11.

We disagree. Both Krishnamurthy and Spofford teach that it was known to locate SNMP agents in network devices. Krishnamurthy teaches

HTTP functionality in a site server that manages several devices to allow communication with a Web browser, but does not in any way suggest that HTTP functionality should not be located in a network device. The HTTP functionality is simply a protocol for communicating between a particular management system device, a Web browser on a computer, and one skilled in the art would have appreciated that HTTP functionality could be used to directly communicate with a SNMP agent on a device instead of an intermediate device.

Appellants argue that the Examiner errs in reasoning that one of ordinary skill in the art would have been motivated to receive and communicate the value of as MIB by directly querying the network packet router "in order to quickly access the MIB variable, thus enhancing the network's efficiency" because "[t]he goals of quickness and efficiency are so general and vague that they cannot rationalize the specific invention that is claimed." Br. 13. We agree that generalized goals of quickness and efficiency do not provide motivation for the specific modification. That is, if one was given a reference and the general guidance of increasing quickness and efficiency, this would not suggest any specific modifications. Nevertheless, Krishnamurthy and Spofford would have suggested the claimed subject matter to one of ordinary skill in the art as discussed *supra*.

We conclude that Appellants have not shown that the Examiner erred in determining that it would have been obvious to locate the HTTP and SNMP functionality of the site server in Krishnamurthy directly in a network

packet router device. The rejection of claims 1-4, 7-10, 17-21, 28-40, 41, 43, and 44 is affirmed.

Claims 5, 6, 21, and 22

Appellants argue that dependent claims 5, 6, 21, and 22 are patentable over the combination of Krishnamurthy, Spofford, and Moeller "because none of the references, independently or in combination, teach, suggest or motivate hosting and executing any of an HTTP-SNMP interface, an HTTP daemon or an SNMP daemon within a router." Br. 16.

The Examiner finds that Krishnamurthy teaches the functionality of an HTTP-SNMP interface, an HTTP daemon, and an SNMP daemon, except located in a site server and not in a router. Final Rej. 6-7, 18-20. Appellants do not argue any error in this finding and their argument appears to be that this functionality is in an intermediate device, not in the router itself. The obviousness of locating the HTTP and SNMP functionality in the network device itself, rather than an intermediate device as shown in Krishnamurthy, has been discussed in the analysis of independent claims 1 and 17. The rejection of claims 5, 6, 21, and 22 is affirmed.

Claims 11-16, 25-27, and 42

Appellants argue that claim 11 is patentable over the combination of references "because none of the references, independently or in combination, teach, suggest or motivate hosting and executing any of an HTTP daemon or an SNMP daemon within a router." Br. 16. Appellants' argument has been

considered in the analysis of claims 1, 5, and 6 and determined to be not persuasive. The rejection of claims 11-16, 25-27, and 42 is affirmed.

Claims 23 and 24

Appellants argue that claims 23 and 24 are patentable over the combination of references "because none of the references, independently or in combination, teach, suggest or motivate use of a browser plug-in or applet for communicating directly with network packet router to obtain the current value of the MIB variable from the router." Br. 17. It is argued that Krishnamurthy connects a browser to a site server that produces queries of MIBs and does not teach functionality for obtaining a current value for an MIB variable directly from the router, and therefore none of the references can teach modifying a conventional Web browser for connecting and communicating directly with a router. *Id.* at 18.

It appears that Appellants again argue the limitation of communicating directly with a packet router, which limitation is discussed in connection with claim 1, rather than the specifics of a browser program in claim 23 or an applet executable in a browser program in claim 24. Nevertheless, Moeller describes "a JAVA applet that communicates with an SNMP module on the switch 12," col. 6, ll. 23-24, and thus suggests a program executable in a browser program to communicate with an SNMP module. The rejection of claims 23 and 24 is affirmed for the reasons stated with respect to claim 1.

NEW GROUND OF REJECTION

Claims 23 and 24 are rejected under 35 U.S.C. § 101 as failing to define patent eligible subject matter.

Claim 23 recites a "program" which, when executed by a processor, causes the processor to carry out a series of steps. Claim 24 recites an "applet executable in a browser program" which, when executed by a processor, causes the processor to carry out a series of steps. A "program" and an "applet" are not physical things within any of the four statutory categories of 35 U.S.C. § 101 and therefore are not patent eligible subject matter. *See In re Nuijten*, 500 F.3d 1346, 1354 (Fed. Cir. 2007) ("If a claim covers material not found in any of the four statutory categories, that claim falls outside the plainly expressed scope of § 101 even if the subject matter is otherwise new and useful."). For example, a "signal" cannot be patentable subject matter because it is not within any of the four categories. *Id.* at 1357. Similarly, a "paradigm" does not fit within any of the four categories. *In re Ferguson*, 558 F.3d 1359, 1366 (Fed. Cir. 2009).

CONCLUSION

The rejection of claims 1-44 under 35 U.S.C. § 103(a) is affirmed.

A new ground of rejection is entered as to claims 23 and 24.

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .
>
> (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Requests for extensions of time are governed by 37 C.F.R. § 1.136(b). *See* 37 C.F.R. § 41.50(f).

AFFIRMED -- 37 C.F.R. § 41.50(b)

erc

HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110